

XI. *New Genera of British Mymaridae (Haliday)*. By
 FRED. ENOCK, F.L.S., F.E.S., F.R.M.S.

[Read October 6th, 1909.]

PLATES XII—XV.

It is with no small amount of pleasure that I am able to bring before the notice of entomologists eight genera of Mymaridae, new to science.

Perhaps before entering into particulars I may be allowed to say that, with one or two exceptions, no entomologist has taken up the study of this much-neglected family of insects, since the year 1833, when Andrew Haliday first established it. We are not, therefore, surprised to find that in our own Entomological Society there are members who are quite unaware of its existence, so I may be excused for saying that this small family is composed, so far as we know, of microscopic *Hymenoptera*, whose larvae are ovivorous in their habits.

Possibly their microscopic size has been the cause of the neglect and want of interest shown by British entomologists. Haliday, after arranging the few species into seven genera, seems to have given up their study and passed on his manuscript to Mr. Francis Walker, who in 1846 increased the genera to twelve and the species to thirty-five. ("Annals and Magazine of Natural History," vol. xvii, p. 49, 1846.)

Following this in 1847, Foerster still further increased the genera to fifteen and number of species doubtful—the additional genera being found in Germany—but neither Haliday, Walker nor Foerster published any illustrations, only short descriptions from which it was impossible to identify many of the species referred to.

Such was my own experience when in 1872 I commenced my own observations from a simple exhibit by Mr. Frederick Fitch at the Quekett Microscopical Club. Under the microscope was shown "A Fairy Fly in a Spider's Web." It was illuminated on a black background, which gave it the most wonderful appearance, every limb, each

tiny hair and the long cilia resembling brilliant silver. It was a most fascinating object to any one, and speaking for myself, I had never before seen anything to compare with its delicate fairy-like structure. I then and there determined to know more about its relatives. Next day I searched the spiders' webs in my garden at Holloway and found quite a number of several species, which I mounted in Canada balsam.

During August and September of that year, 1879, I obtained from the same source, and running up windows in houses and conservatories, some dozens of specimens—which our fellow member and then Secretary, Mr. E. A. Fitch, named for me and set me in the right track for further information—but this was too soon exhausted, and though I made great efforts to discover what had become of Haliday's and Walker's MSS. I utterly failed—but went on adding to my collection.

On removal in 1882 to Woking I very soon found I was in the land of plenty for *Mymaridae*, which simply swarmed on the windows of the house and in a very small conservatory—where I caught seven of the new genera which I am introducing for the first time to-night.

In 1895, *at last*, I heard that Haliday's Type Collection of *Mymaridae* was in possession of the Dublin Museum, and which, by the great kindness of Dr. Scharf, I was permitted to examine at my leisure, "all that was left of them," less than one hundred.

It was a most disappointing examination, for of the special type wanted not one was to be found—only the very commonest species remained, and they were so encrusted with dirt and crystals of sorts that it was utterly impossible to identify species. Before returning the collection, I made most careful drawings under the microscope of the *wings* of every specimen which *had* wings left, as I consider they will prove to be the best guide to classifying the species. I must not dismiss Haliday's Collection without mention of one specimen, which Haliday has named *Panthus*, showing a peculiarity of the marginal branch. Dr. Scharf gave me permission to remove this specimen from the card, and mount it in Canada balsam, and when under the microscope I was enabled to identify it with Walker's description of the genus *Limacis*, the balsam bringing out the number of joints in antennae and tarsi in its own peculiar way.

The microscopic drawings, though tedious to do, brought out valuable characters which I considered would be of the greatest help whenever I could spare time to begin my monograph—which I have long considered my duty to do—and follow out the hope expressed by Francis Walker, who (in the "Entomologist" for 1872-73, vol. vi) wrote: "From the number of specimens which I have observed, I believe that the *Mymaridae* are considerably more numerous than what has been recorded. Their exquisite elegance would appear to advantage in highly magnified figures of each kind, and one of the 'coming race' of entomologists will do well to investigate their successive epochs of life and to publish his discoveries with illustrations." Ever since I read this, I have felt that this message appealed peculiarly to myself, as I had been so long engaged in microscopic work, as well as microscope drawing, but owing to increasing weakness of sight I was obliged to give up drawing the *Mymaridae*, but, like many other apparent disappointments, this turned out for the best, as it riveted my attention to photography, more especially photo-micrography, which I have since proved is the only means whereby the microscopic structure and form of the wings of the *Mymaridae* can be truthfully shown, the extreme minuteness of the species rendering them most apt subjects for photo-micrography, for no drawings can be trusted for minute structural detail.

For the past three years I have received the most valuable help in the way of carded specimens and naming the genera, from our late President, Mr. C. O. Waterhouse, who has, I am delighted to say, become captivated by these Fairy Flies, and with whom I look to both capturing many new species as well as co-operating in my monograph on our British *Mymaridae*, which are to be found almost everywhere and anywhere, in the most unlikely places, such as the corners of a top sash bar in a conservatory at Holloway where, ten years ago, I captured a male *Doriclytus*, new to Great Britain, and last August, another new genus on the self-same pane of glass, as well as a female *Doriclytus*. These facts prove that there is no royal road to success. Only additional *workers* are needed to bring out the many unrecorded genera and species which are waiting to be captured and recorded.

At some future time I hope to bring before the Entomological Society some of the facts in the life-history

of such species as I have been enabled to work out in the past thirty years.

STETHYNIUM, n. gen.

Tarsi 4-jointed; abdomen sessile. *Antennae* of male 13 joints, the female 11 joints, including the club, composed of three joints. Scape twice as long as broad, having a number of circular concavities. *Wings* broad and symmetrically curved on costa and inner margin. *Cilia* very long.

Stethynium triclavatum, n. sp. (Pl. XII, figs. 1-5.)

General colour, light testaceous. *Antennae* of the male, 13 jointed. The scape much swollen on the outer side, twice as long as broad, with a number of circular concavities. The pedicel cup-shaped, as broad as long. The 3rd as long as the 2nd. The 4th to the 13th of about equal length. The 12th and 13th joints forming a narrow club. The whole of the antennae testaceous. *Antennae* of the female 11 joints in all, including the club of 3 joints. The scape testaceous, becoming darker. The outer side much swollen, the surface pitted with a number of circular concavities. The pedicel equal in length and breadth, the 3rd and 5th joints the same length and cylindrical, the 4th slightly longer, the 6th, 7th and 8th a little shorter and broader. The club equal in length to the 2nd, 3rd and 4th, combined, is composed of 3 joints, the second articulation commencing at right angles from the upper side to the centre, then turning off in a curve towards the tip, emerging at the lower side about three-quarters the length of the club. The 2nd articulation emerging just before the tip, giving the three joints somewhat of a flabellate appearance.

The *head* is broader than the thorax, which is longer than the abdomen.

The *wings* of the male are 0.8 mm. long by 0.23 mm. broad. The longest *cilia* 0.23 mm. Those of the female are 0.7 mm. long by 0.2 mm. broad. The curves of both male and female wings are symmetrical, uniting in an obtuse angle.

The ovipositor projecting just beyond the tip of the abdomen.

Length 0.7 mm.

Hab. WOKING: September 1885 (*Fred. Enock*); SOMERSET (*Dr. Gooch*).

This species somewhat resembles some of the *Anagri* in its colour and form, but is quite distinct in the number of

the joints in the antennae of the female, as well as the decided form of the wings.*

CLERUCHUS, n. gen.

Tarsi 4-jointed. The abdomen sub-sessile. The antennae of the male 13 joints; of the female 9 joints. The scape is very long. The apical joint forming an elongated elliptical club.

The scape springing from a very decided ridge, projecting from between the eyes; giving the head a somewhat flattened appearance.

The *wings* are almost destitute of surface hair, with the exception of a central row running from the base to the tip. The cilia are very long and slender. The anterior wings are narrow, parallel from near the base to just before the apex, where they gently curve down. The posterior wings a very little shorter than the anterior, and about half the width and parallel.

The *ovipositor* projecting beyond, and the tip rising above the abdomen.

Cleruchus pluteus, n. sp. (Pl. XII, figs. 6-10.)

General colour, smoky brown; the *head* and front part of the *thorax* darker.

The *antennae* of the male, 13-jointed, are dark brown, the joints slightly increasing in length to the apex: those of the female, nine in number, are brown, paler at the base. The scape very long and compressed, curved and tapering to the base, which springs from a projecting ridge between the eyes. The pedicel is short and broad, the 3rd joint very short, the 4th almost twice as long as the 3rd, the 4th, 5th and 6th equal in length, the 7th and 8th a trifle shorter and broader.

The club the same length as the scape.

The *wings* smoky brown, 0.6 mm. in length by 0.075 mm. in

* Mr. Waterhouse has furnished me with the following note on the colour of a fresh male specimen of this genus, apparently referable to the same species, taken by him in Richmond Park on Oct. 23rd on *Juncus glaucus*—

“*Head* pale dirty yellow, the ridge between the eyes nearly black; the three large ocelli are also nearly black. *Thorax* light smoky brown, with a pale dirty yellow dorsal line. The metanotum has the appearance of being slightly excavated, with a pale yellow membrane across it. *Abdomen* rather darker brown than the thorax. Legs pale yellow, the apical joint of the tarsi pale fuscous. *Antennae* pale dirty yellow, the basal joint clear yellow.

“Length 0.75 mm.”

width, the longest cilia 0·2 mm. The *legs* somewhat short, the femora compressed.

Length 0·6 mm.

Hab. WOKING: July 1885; LOUGHTON: July 1897 (*Fred. Enock*); BURNHAM BEECHES: 1908 (*C. O. Waterhouse*).

PARALLELAPTERA, n. gen.

Tarsi are 4-jointed. The *abdomen* sessile. The antennae of the male 11 joints, of the female 8 joints.

The *wings* are without any surface hairs and almost parallel; the posterior wings are the same length as the anterior.

The *ovipositor* projecting beyond the apex of the abdomen.

Paralleaptera panis, n. sp. (Pl. XIII, figs. 1-5.)

Head dark brown; the thorax and abdomen lighter. The *antennae* of the male 11 joints, of the female 8 joints—testaceous. The *scape* somewhat slender; the pedicel the same width as the scape in the centre; the 3rd and 4th joints the same length, cylindric, the 5th joint much longer, the 6th longer than the 5th and the 7th equal to the 3rd, 4th and 5th combined. The club equal to the 6th and 7th combined and having two ridges running down half its length, and twice as broad as the funicular joints. The base and tip slightly pointed; the sides parallel; the eyes dark. The *thorax* longer than the abdomen. The *wings* quite clear of all surface hair, rounded on the outer margin, the anterior *wing* is 0·45 mm. long by 0·33 mm. broad, the sides almost parallel. The cilia long, the longest 0·2 mm. The *tarsi* much longer than tibiae.

Length 0·6 mm.

Hab. WOKING: September 1885 (*Fred. Enock*).

This and the preceding new genus are quite distinct in the shape of the wings from any of those hitherto recorded.

ERYTHMELUS, n. gen.

The *tarsi* are 4-jointed; the *abdomen* sessile; the *antennae* of the male 13 joints, of the female 9 joints. The *scape* is long, the same length as the club, which is pointed. The *wings* are straight on the costa, and very much swollen on the inner margin. The anterior wing is 0·65 mm. in length by 0·16 mm. in width; the longest cilia 0·16 mm. The *ovipositor* projecting just beyond the apex of the abdomen.

Erythmelus goochi, n. sp. (Pl. XIII, figs. 6-10.)

The *head* and *thorax* black; the sides yellowish. The *legs* and basal half of *abdomen* yellowish; the apical half black. The *antennae* of the male are 13-jointed and of one length and width throughout, with 4 longitudinal ridges. The *thorax* very long. The *antennae* of the female are 9-jointed; the scape is very long; the pedicel much broader than the scape; the 3rd and 4th joints the same length; the 5th a very little broader and longer; the 6th and 7th broader but same length; the 8th equal to the 5th and 6th together. The club long and pointed, only slightly broader than the 8th and equal in length to the 2nd to 6th combined. The *thorax* is long, but shorter than the abdomen. The *tarsi* of the front legs are much longer than the tibiae, the middle tarsi and tibiae about the same length; the hind tibiae and tarsi are longer than the others. The *wings* are 0.65 mm. long by 0.16 mm.; from the widest point to the apex the surface is slightly hairy; the longest cilia 0.16 mm., the *ovipositor* projecting a little beyond the apex.

Length 0.8 mm.

Hab. SOMERSET (*Dr. Gooch*); HOLLOWAY, LONDON, N.: August 1908 (*F. Enock*).

DICOPUS, n. gen.

The *tarsi* 5-jointed; the *abdomen* sessile. The *antennae* of the female 10 joints. The scape compressed with three angular projections on the upper edge, the space between the first and second gently sinuate, the basal projection not so prominent as the others. The *wings* 0.4 mm. in length and 0.05 mm. in width. The cilia very long, the longest 0.23 mm. The *ovipositor* very minute and short, just level with tip of abdomen.

The male is at present unknown.

Dicopus minutissima, n. sp. (Pl. XIII, figs. 11, 12, 13.)

General colour, testaceous; the *head* slightly broader than the *thorax*; the *antennae* of the female pale testaceous, the scape compressed with three angular projections on the upper edge, the space between the first and second gently sinuate, the basal projection not so prominent as the other. The pedicel half as long as the scape, as broad as the scape across the prominences—the 3rd and 4th joints are about equal length. The 5th and 6th equal length, the 7th, 8th and 9th shorter, but broader. The club equal in length to the 6th, 7th, 8th and 9th combined. The *wings* are very delicate and oar-

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shaped; the anterior 0·4 mm. long by 0·05 mm. broad; the cilia of great length; the longest 0·23 mm. The *legs* light testaceous, the tibiae longer than the tarsi, the tarsal joint minute and of equal length. The *ovipositor* just level with the tip of the abdomen.

Length 0·4 mm.

Hab. WOKING: September 1885 (*Fred. Enoch*).

ENAESIUS, n. gen.

The *tarsi* are 4-jointed, the abdomen sessile; the *antennae* of the male are 13-jointed; of the female 9-jointed. The scape long, narrow and hairy. The wings 0·85 mm. in length, by 0·175 wide; the basal quarter of the anterior wings devoid of surface hairs. The *ovipositor* level with apex of abdomen.

Enaesi *agilis*, n. sp. (Pl. XIV, figs. 1-5.)

General colour, almost black or dark brown; the *antennae* of the male 13-jointed, brown throughout; of the female 9-jointed, the scape very long; the pedicel about the same length as the 3rd, 4th, 5th and 7th joints the same length, the 6th and 8th a little longer, the club increasing in width from the base, the tip rounded. In the male the 3rd to the 12th joint inclusive, are of the same length—the 13th slightly shorter—all of one width. The *head* is about the same width as the thorax, the eyes rounded; the wings 0·85 mm. long by 0·175 broad; straight on the costa and much swollen on the inner margin; the longest cilia 0·175 mm.; the apical half covered with coarse surface hairs. The *legs* of the male have dark brown femora in the centre, the front tibiae testaceous, the trochanters very long and cylindrical. The femora of the front legs of the female are brown changing to testaceous at the base and tips; the middle legs with the basal half of the tibiae testaceous, brown at the tips, the tarsi testaceous to brown. The hind femora brown, testaceous at the tips and trochanters; the tibiae testaceous, brown at the base, the tarsi brown. The abdomen of the female testaceous at the base; the rest dark brown; the *ovipositor* level with the tip.

Length 1 mm.

Hab. WOKING: September 1885 (*Fred. Enoch*); BROAD-STAIRS: 1908 (*C. O. Waterhouse*); RICHMOND PARK: August (*Fred. Enoch*); 1909, I. OF WIGHT (*C. O. Waterhouse*).

Enaesi *laticeps*, n. sp.

General colour, brown; the *antennae* of the female 9-jointed (the male not yet known), the scape very long; light testaceous, t e

pedicel about the same length as the 3rd joint. The 3rd, 4th, 5th and 7th the same length; the 6th and 8th longer, the club long, shuttle shape, brown. The head very wide, 0·2 mm. by 0·125 mm. The eyes rounded; the *thorax* narrower than the head; the *wings* 0·85 mm. long, by 0·175 mm. broad, straight on the costa, and much swollen on the inner margin; the longest cilia 0·175 mm., the apical half covered with coarse surface hairs. All the femora slightly darker in the centre, the other parts light testaceous. The *abdomen* testaceous at the base, the rest brown; the *ovipositor* level with the tip.

Length 0·9 mm.

Hab. WOKING: September 1885 (*Fred. Enoch*).

STEPHANODES, n. gen.

The *tarsi* 4-jointed; the *abdomen* petiolate. The *antennae* of the male 13-jointed, of the female 9-jointed; the scape in both sexes asperate. The *wings* 1·3 mm. long and 0·31 wide; cilia short, the longest 0·11 mm. Inner margins of eyes bounded by carinae which run three-quarters round the eyes, and smoothing down level at the lower margin. The *ovipositor* level with the tip of the abdomen.

Stephanodes elegans, n. sp. (Plate XIV, figs. 6–11.)

General colour, intense black.

The *tarsi* 4-jointed. The *abdomen* petiolate. The *head*, *thorax* and *abdomen*, smooth and shining; intense black. The *head* almost square with well-rounded corners, slightly depressed between the antennae; the margins of the eyes, except on the outside, surrounded by a small carina, running out level above and below the eyes, which are rounded the same curve as the cheeks. The *antennae* of the male 13 joints. Scape asperate in both sexes. The pedicel half the length of the scape; light testaceous; the 3rd joint about the same colour as scape—brown; the 4th to 13th very dark brown and joints of equal length. The scape and pedicel of the female similar to the male; the 3rd joint a little longer than the 2nd, the 4th darker and longer; the 5th and 6th shorter and darker, the 7th and 8th short, dark and thicker, the club darker, and twice as broad as the 8th and longer than the 7th and 8th combined. The *thorax* oval; the petiole testaceous. The *wings* 1·3 mm. long by 0·31 mm. broad. The cilia very short; the longest cilia 0·11 mm. The outer margin almost semicircular. The surface evenly covered with short hairs. The front *tarsi* longer than *tibiae*; the 4th joint brown; the 1st joint equal to 2nd, 3rd and 4th combined, the middle and hind *tibiae* a

little longer than the tarsi. The *ovipositor* just level with the tip of the abdomen.

Length 1.15 mm.

Hab. WOKING: July 1885 (*Fred. Enoch*); SOMERSET (*Dr. Gooch*); BURNHAM BEECHES: 1907 (*C. O. Waterhouse*).

This species at first sight resembles a *Cosmocoma*, but the totally different "gait" from the insects of that genus gave us the first impression that it was something new, which the peculiar asperate scape and carina confirmed. This beautiful species is one of the most elegant and fairy-like in its movements.

OOPHILUS, n. gen.

The *tarsi* 4-jointed; the abdomen sub-sessile. The *antennae* of the male 13-jointed, those of the female 11 joints. The *wings* large and ample, 1.35 mm. long \times 0.5 mm. broad; the cilia very short, the longest 0.1 mm. The *ovipositor* very long, projecting 0.25 mm. beyond the tip of the abdomen.

Oophilus longicauda, n. sp. (Plate XV, figs. 1-6.)

The general colour black.

The *head* slightly narrower than the *thorax*; the *antennae* of the male 13-jointed, black and 1.65 mm. long. The *scape* very long and compressed, centre is black, the base and tip yellowish; the 4th to 11th joints of equal length and thickness, the 12th and 13th a little shorter; the pedicel yellowish in the female; the club longer than the *scape*; the joints 3 to 11 gradually increasing in length and breadth; the club 0.2 long, the lower edge serrated. The *thorax* slightly broader than the head. The *wings* broad, 1.35 mm. long \times 0.5 broad, of a milky colour, the outer margin very slightly flattened. The cilia very short, the longest 0.1 mm., the inner margin straight, the surface covered with short hairs; the *femora* of the female compressed, with yellow tips and bases, black in the middle. Front tibiae shorter than tarsi. The *abdomen* long and tapering to tip; the *ovipositor* very long, powerful, projecting 0.25 mm. beyond the apex.

Length 1.6 mm.

Hab. RICHMOND PARK, SURREY: July (*Fred. Enoch* and *C. O. Waterhouse*) 1908.

DORICLYTUS, Förster, *Linnaea Ent.*, II, 1847, p. 226.

The *tarsi* 4-jointed; the abdomen petiolate. The *antennae* of the male 13-jointed, of the female 9-jointed; the wings 1.13 mm. long

by 0.275 broad, the cilia long. The tarsi of the front, middle and hind legs longer than tibiae, those of the hind pair are the longest, viz. tibiae 0.35 mm., tarsi 0.5 mm. The *ovipositor* projecting beyond the tip of the abdomen, which is pointed at the base and tip.

Doriclytus vitripennis, Förster.

General colour black. The *antennae* of the male 13-jointed, of the female 9-jointed. The joints of the male are long and narrow. From the 3rd to the 12th of about the same length, the 13th a little shorter, the scape long and slender, the pedicel about half the length of the scape, and of a slightly lighter colour. The antennae of the female varying in colour from the pedicel which is light testaceous to the club, of intense black; the 3rd joint is the shortest and narrowest, the club as long as the 3rd and 4th combined. The *head* is wider than the *thorax*. The *wings* long and curved on the costa and inner margin, the curve of the outer margin forming an obtuse finish. The anterior wing is 1.13 mm. long \times 0.275 broad. The longest cilia 0.23 mm., the surface covered with short hairs. The *legs* form good characteristics of this genus, all the tarsi being much longer than the tibiae—those of the hind legs are 0.5 mm. long, against 0.35 mm. of the tibiae. The front edge of the tibiae of the front legs is armed with sharp projections, surmounted by a fine hair; the femora and tibiae are black, with testaceous tips and bases; the tarsi light testaceous, the 4th joint brown and the 1st much the longest. The trochanters black, the coxae yellowish. The petiole is testaceous. The *ovipositor* projecting slightly beyond the tip of the *abdomen*, which is pointed both at the base and tip.

Length 1 mm.

Hab. HOLLOWAY, LONDON, N.: ♂ July 1897; ♀ July 1908 (*Fred. Enock*).

Both species caught on the same pane of glass, with an interim of eleven years.

This genus, new to Great Britain, was first established by Förster in 1847.

It is near to *Cosmocoma*, but the very long tarsi separate it from that genus.

EXPLANATION OF PLATES XII—XV.

[See *Explanation accompanying the PLATES.*]